

JONES ROAD BRIDGE
Spanning the Grand River
Eagle Village vicinity
Clinton County
Michigan

HAER No. MI-125

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD

National Park Service
Department of the Interior
Great Lakes Systems Office
1709 Jackson Street
Omaha, NE 68102-2571

HISTORIC AMERICAN ENGINEERING RECORD

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JONES ROAD BRIDGE

HAER No. MI-125

Location: Jones Road, Spanning the Grand River
Clinton County, Michigan

UTM: 16.678425.4739840
Quad: Eagle MI; 1:24,000

Date of Construction: 1912

Engineer: Unknown
Architect: Unknown

Present Owner: Clinton County Road Commission
3536 South US-27
St. Johns MI 48879

Present Use: Closed to both vehicular and pedestrian traffic since 1984.

Significance: The bridge is part of Clinton County's local road system which primarily serves existing agricultural development, rural residential uses, and related traffic. The bridge is a steel Baltimore through-truss structure. It is the only example of this type of bridge in Michigan.

Project Information: An evaluation (1996) advised replacement of the bridge. To mitigate the adverse effect, the State Historic Preservation Officer stipulated documentation of design elements of the bridge. This documentation was undertaken to fulfill this stipulation.

Douglas A. Bell, AICP
Consultant to the Clinton County Road Commission
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Clare MI 48617

Summary Description of Bridge and Setting

This bridge carries Jones Road over the Grand River. The bridge is locally known as the Jones Road Bridge. The bridge is located near the Village of Eagle, Michigan, on the common line of Sections 29 and 30, Eagle Township, Clinton County, Michigan (T5N, R4W). This location is approximately two miles southwest of the Village of Eagle and about eighteen miles northwest of the City of Lansing, the Michigan State Capitol. The bridge site is two and one-half miles directly south of Interstate Highway I-96, and approximately four miles west of State Highway M-100.

The bridge was originally constructed in 1912 as a public structure to permit the crossing of the Grand River by farm vehicles, livestock, and other local traffic.

The Jones Road Bridge is a steel Baltimore through-truss structure with a wooden plank deck and abutments constructed of concrete and concrete blocks. The bridge consists of a single span 217 feet in length and 16 feet in width. The approaches consist of gravel over a compacted sand and gravel base. The bridge has been closed to both vehicular and pedestrian traffic since 1984 due to its deteriorated condition.

The area near the bridge site is rural residential and agricultural in character. The nearest structures (single family homes) are approximately 500 feet distant. It has been determined by the State Historic Preservation Officer that removal of the bridge will not impact these structures.

A detailed inspection of the bridge was conducted by the Clinton County Road Commission in May 1995. At that time, the following deficiencies were noted:

1. The wooden plank deck is in very poor condition with extensive deterioration. Failure of the deck is evident in several locations, and portions of the deck are missing entirely.
2. The superstructure is in poor condition with repair or rehabilitation required immediately.
3. The bridge railings do not meet current safety and design standards.
4. The bridge abutments are in a critical state of deterioration. Prior to closure of the structure in 1984, the south masonry abutment was observed to be sliding outward. Since closure, the south abutment has completely failed.
5. The bridge does not meet currently accepted design and loading standards, and the entire structure is in a rapid state of deterioration. The bridge was closed to all traffic (both vehicular and pedestrian) due to its unsafe condition in 1984, and it remains closed.

6. The clear roadway (deck) width of the bridge provided for only one lane of traffic. The roadway approaches to the bridge are two lanes wide, resulting in unsafe conditions for vehicles entering the bridge from opposite directions.

Maintenance and Alterations (Bridge and Site)

Since the original construction, no record of alterations has been maintained. Based on visual observation of the road bed, abutments, and approaches, it appears that limited maintenance may have taken place to prevent deterioration and permit continued use.

Details Concerning Those Involved With Bridge Design and Construction

The designer and builder of the bridge are not known. The bridge contains no name plate or plaque. No bridge plans are available. (Source: Clinton County Road Commission, St. Johns, Michigan).

Technology Used

The bridge was constructed based on a Baltimore through-truss design with a wooden plank deck and abutments consisting of concrete and concrete blocks. No other aspects of the bridge regarding the construction labor force, type of equipment, or construction tools are known to be significant.

Use of Structure

Prior to closure of the bridge in 1984, Jones Road provided for the north/south movement of local traffic over the Grand River, including farm machinery, emergency vehicles, school buses, delivery and service vehicles, and general through traffic. Jones Road also functions to link adjacent land areas to the I-96 freeway via county primary roads such as State Road, Grand River Avenue, and Wright Road. I-96 is an east/west state arterial which provides direct connections to I-69, US-27, US-131, and US-31. I-96 links several of the state's major urban centers (including Lansing, Grand Rapids, and Detroit) as well as numerous smaller communities.

Historical Significance

The bridge is the only structure listed on the Michigan Historic Bridge Inventory as a Baltimore truss highway bridge. The bridge is significant due to its rare truss type and unusual length (217 feet). Based on information provided by the Michigan State Historic Preservation Officer, no other bridges of similar design are known to exist within the state.

Background and Contextual Information

Historically, the system of local roads within the State of Michigan is based on land survey section lines for location and construction purposes. The results of this approach are evident throughout the state. One needs only to examine local county road maps, particularly in rural locations, to observe that most local roads clearly follow section line boundaries. This pattern of road alignment and construction also established a majority of the state's water crossing locations. Alternatives to the use of section lines for establishing water crossing locations generally took place only due to the occurrence of a major physical obstacle which demanded an alignment change. For example, road builders confronted with an extremely wide river crossing might seek a narrower passage.

In the vicinity of the Jones Road Bridge, the Grand River follows a meandering course and is quite wide, up to 500 feet in places. However, the crossing of the Grand River at Sections 29 and 30 in Eagle Township offered some advantages over alternate locations. At this point, the river narrows to approximately 200 feet. Also, the land in this area is relatively flat, avoiding some of the steeper slopes that occur a short distance to the southeast. Consequently, the bridge was constructed in its present location.

Significance of the Crossing

The crossing is most significant to travel by local residents and farmers, as well as school buses, emergency vehicles, delivery vehicles, and other through traffic. Currently, detours of about seven miles are required for north/south traffic movement. On an annual basis, this results in significant losses of productive time, increased vehicle and equipment wear, and increased energy consumption.

In later years of use, the design and configuration of the bridge prevented the safe movement of traffic. In particular, the narrow width of the bridge (16 feet) prevented the passage of two-way traffic and posed a serious safety hazard. These problems intensified as passenger cars, commercial vehicles, and farm machinery became larger and heavier. Such vehicles were generally not in existence at the time of bridge construction.

When the bridge was closed in 1984, daily traffic at the crossing was estimated to be 250 vehicles. If the bridge was improved to current state and federal standards and reopened, it is estimated that traffic would increase to 336 vehicles per day. Over the next 20 years, average daily traffic at the bridge crossing is projected to increase to 500 vehicles. These increases in traffic are mainly due to areawide growth in residential development.

SOURCES OF INFORMATION / BIBLIOGRAPHY

- A. **Engineering drawings:** No drawings or design plans of the bridge are known to exist. (Based on examination of records of the Clinton County Road Commission, Clinton County Clerk, and Eagle Township.)
- B. **Historic views:** No historic views of the bridge are known to exist. (Based on an examination of records or contact with the Clinton County Road Commission, County Building and Zoning Department, Clinton County Clerk, Tri-County Regional Planning Commission, State Historic Preservation Officer, and Eagle Township.)

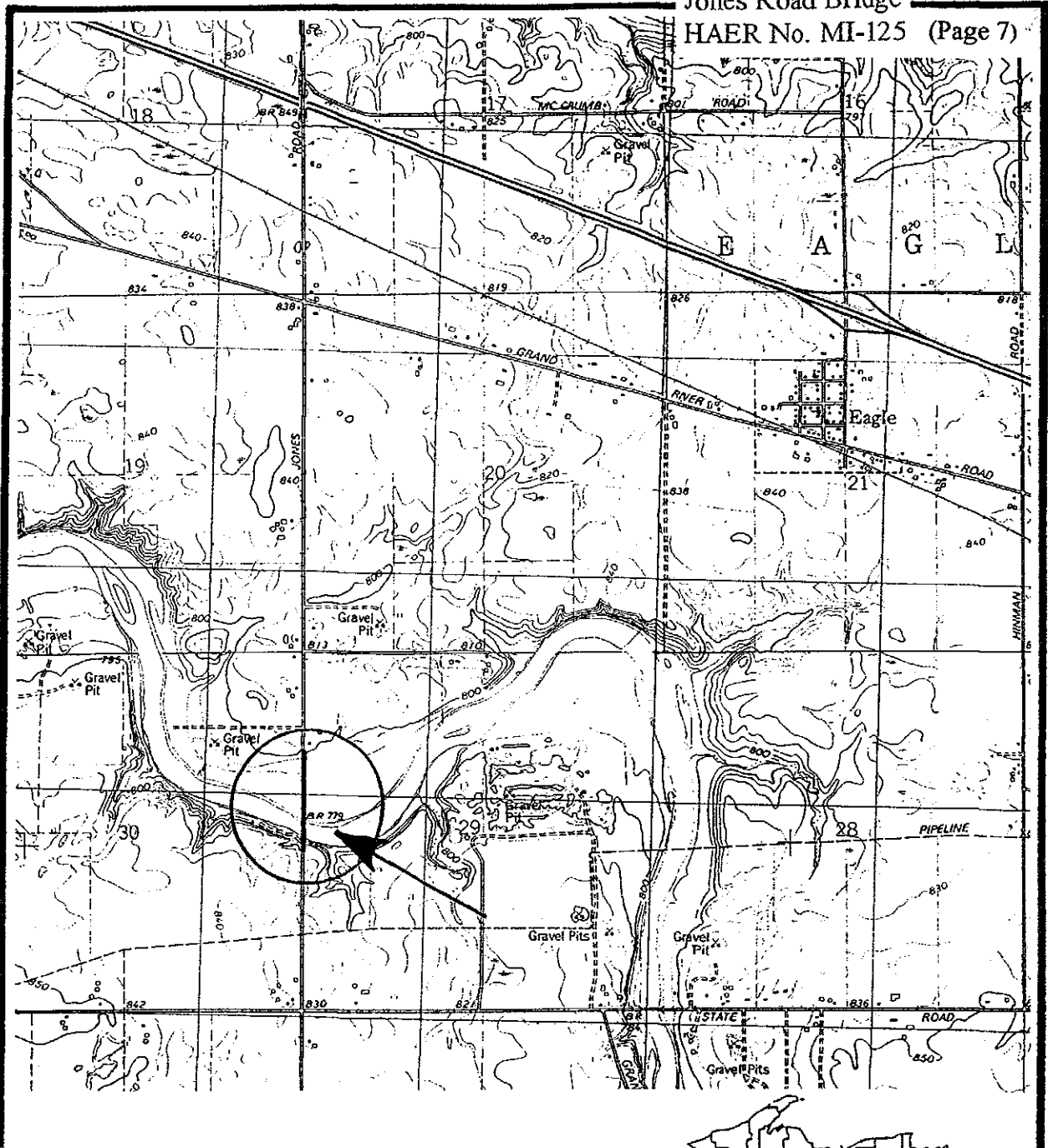
C. **Interviews:**

Gerald Ritchie, P.E.
Clinton County Road Commission
St. Johns, Michigan
Interviews conducted during the period of July 1995 through December 1996.

D. **Bibliography:**

Environmental Assessment and Programmatic Section 4(f) Evaluation of the Jones Road Bridge Over the Grand River. Clinton County Road Commission in cooperation with the Federal Highway Administration and the Michigan Department of Transportation. St. Johns, Michigan, 1996. Document on file at the offices of the Clinton County Road Commission, 3536 South US-27, St. Johns MI 48879; and the Michigan Department of Transportation, Engineering Services Division, P.O. Box 30050, Lansing MI 48909.

- E. **Likely sources not yet investigated:** No additional sources of information are known. Local sources investigated include the Clinton County Road Commission, Clinton County Clerk, Tri-County Regional Planning Commission, and Eagle Township.
- F. **Supplemental material:** No supplemental material has been attached.



Site Location Map
Jones Road Bridge, Spanning the Grand River
Jones Road
Sections 29 and 30
T5N, R4W
Eagle Township (Eagle, MI 48822, vicinity)
Clinton County
Michigan

